

The Sun.

WEDNESDAY, JUNE 5, 1895.

Local News—The City and Suburban News Bureau of the United Press has been established at 100 Nassau street. All information and documents of public or private interest disseminated to the press of the whole country.

If our friends who favor us with manuscripts for publication would have related articles removed they must in all cases send stamp for that purpose.

Japan and Her Navy.

In considering the possibilities of Japan's future as a naval power, a leading reflection must be that which is suggested by the rapidity of her progress hitherto. In a recent lecture before the Japan Society, in London, Dr. ELIGAN pointed out that it was only about forty years ago that the Government withdrew the order prohibiting the building of seagoing vessels which measured "more than 500 koku, or 70 tons," and had more than one mast. It was about that time, too, that Commodore PERRY appeared with an American squadron, and we can imagine the vast and perhaps impossible gaps which must have seemed to stretch between their rude naval craft and our wonderful war ships.

Yet to-day, when people who looked upon PERRY's ships with wonder are still in active life, we find all modern nations studying the lessons which Japan has taught them in the naval battles of the Yalu and Wei-Hai-Wei harbor.

When the opening of her ports brought her into competition with foreign nations and exposed her to their covetousness, Japan determined to obtain for herself that sea power which made them so formidable. She purchased vessels in foreign ports, began to build others at home, and sent her youth abroad to learn the modern art of war. Then she gradually accumulated thirty-three war vessels, according to Dr. ELIGAN, besides the training ships Kisojo and Junsei, and forty-one torpedo boats. Four of the thirty-three were, however, wooden sailing vessels. The other twenty-five included one old armored, the Fusō; two slow cruisers with small waterline belts, the Hiwai and Kongō; one fast-fitted cruiser, the Chiyoda; seven fast steel protected cruisers of modern construction, six unprotected cruisers, one torpedo gunboat, and ten composite or wooden gun vessels.

Among the protected cruisers is one of the fastest in the world, the Yoshino, credited with 28 knots, while four others have trial speeds of 18½, 19, and 23 knots, and three a speed of 16 knots. They carry fine rifled guns, Krupp, Armstrongs, or Caniers. But besides these vessels, Japan has about a dozen captured from China. At Wei-Hai-Wei she took the armaments Chen-Yuen, Tai-Yuen, and Ping-Yuen, the last a coast defender, the protected cruiser Kwang-Yung and six gunboats of the Alpha Beta class. Some of these vessels were greatly damaged, but those that can be repaired will prove of great addition to the strength of Japan.

Again, Japan has building in her own domains three fine protected cruisers, one of which, the Ssuma, launched at Yokosuka, is to have a speed of twenty knots, and in England two great battle ships, ranking among the first-class battle ships of the world, one of which, the Fujiyama, will be launched this year. Taking all these resources together, the strength of the Japanese navy is apparent, and we may well suppose that a part of the indemnity to be paid by China will be used for making it stronger. Reference has been made to the cruisers built in Japan, in addition, sixteen torpedo boats have been constructed there, chiefly at Onomura, near Kobe. As to the aptitude of the people for naval work, Dr. ELIGAN made these statements:

"The Japanese were good seamen. They were active, hardy, courageous, and could stand privation. The navy was recruited from volunteers, who were mostly sailors, men of nerve, and were possessed, somewhat, of a certain dash. The system of centralized conscription had been rejected. The officers were trained more upon the American system. It was one of the most striking instances in the history of the world of the acquisition and assimilation of knowledge and methods, which should have been adopted in Europe, were another reason to the success of the Japanese navy. The size and mean power of the cruiser that took part in the battle of the Yalu were built, equipped and supplied at the Japanese naval yard at Yokosuka, and it must be remembered that the naval squadrons were commanded, officered, and fought entirely by Japanese. The officers had all been trained in the United States, and the men had raised the modern naval service of Japan to a high degree of efficiency. Speaking as a naval contractor and one acquainted with the principal ships on both sides which fought the battle of the Yalu, he should say that the battle was won by the good organization, discipline, training, and bravery of Japanese seamens, commander, and officers. It was a battle of a highly organized and efficient naval service on one hand and a very inferior one on the other, and the difference in the manner in which the ships were handled and fought appeared to have been sufficient to override all considerations of the relative qualities of the ships."

We see that the United States has clearly the largest navy in the world, and that the German, French, and English navies are second, third, and fourth respectively, and that the rates failing to each American is more than what two Frenchmen or Germans have at their disposal. Moreover, the military arms which keep in force nearly 4,000,000 men in Europe are happily known in the United States, it is true, the power of the United States is far greater than that of any other nation. The labor and exertions of 4,000,000 men in prime of life, they have also to set about 1,000,000 workers of the agricultural and industrial classes to feed and clothe the standing armies and the force of artillery. This is the average of productive energy in France, Germany, England, and Australia appears in the above statement."

Again, in the labor-saving appliances of the United States we see the perfecting of machinery, the reaping machine, for example, commonly used in the Western States, "will cut and bind grain at the rate of forty-five minutes per acre." An ordinary farm hand in the United States says Mr. MULHALL thanks to these mechanical appliances, raises as much grain as three hands do in England, four in France, five in Germany, and six in Austria. Reducing man products to a grain standard by supposing ten pounds of meat or two gallons of wine to be equal to a bushel, he finds the number of bushels of grain per hand raised in the United States to be 475; in the United Kingdom, 298; in France, 188; in Germany, 118; in Italy, 115; in Austria, 97. Yet again, he quotes Mr. ATKINSON as showing that in America the labor of one man in six days in the year is equivalent to the production of 4,000 bushels of wheat, while that of three men represents the cutting, threshing, milling, and transporting to market. Thus four men carry to the baker's four for a thousand persons, at twelve ounces of bread daily, for a year. "In other words, one man can feed 250, where in Europe one man feeds only thirty persons," and little improvement in Europe can be expected, since the British racers are nearly double ours. The Columbia's maximum draught at the lowest point of the keel, with full blankets, is about 26 feet 7 inches. When the Columbia was designed she was, according to Secretary THOMAS, the longest man-of-war in the world, but these new British racers are far longer.

The engines of the Terrible are to develop 50,000 horse power, with an extreme speed originally described as 34 knots.

The maximum indicated horse power of

the Columbia is put in the tables of the Bureau of Construction at 18,500, and that of the Minneapolis at 20,400. But although unequalled in any other war vessel, the horse power of the Powerful and Terrible is not so extraordinary, compared with that of our Columbia and Minneapolis, in proportion to the respective displacements of these two sets of vessels. Indeed, the trial speed of the Columbia was 22½ knots, and that of the Minneapolis 23 ½, and some authorities doubt whether more than 23 knots will be achieved by the Terrible, while the dispatches have now put it at only 22, although possibly meaning with natural draught.

The growth of wealth in this country seems to Mr. MULHALL still more marvelous than the growth of physical power. He finds the wealth of 1890 to be \$1,960,000,000, that of 1892 to be \$1,910,000,000, and that of 1890 to be \$615,000,000. And this last computation omits public lands. The number of dollars per inhabitant carried yearly, according to the Post Office returns, are 110 for the United States, 74 for Switzerland, 60 for Great Britain, 49 for Germany, 49 for Belgium, 40 for Holland, 39 for France, 24 for Austria, and 16 for Italy.

In battery power the Powerful and Terrible are far superior to the Columbia and Minneapolis. The main battery of the latter consists of one 8-inch, two 5-inch, and eight 4-inch guns, while that of the Terrible is two 9.2-inch and twelve 6-inch guns. The secondary battery of the American vessels consists of twelve 6-pounds, four 1-pounds, and four Gatlings, while that of the British vessels is eighteen 12-pounds and twelve 8-pounds with several Maxims. Our vessels carry five torpedoes each, and the British four.

The Powerful and Terrible should be good sea boats with their breadth of beam and deep draught. They are also noteworthy for their large number of watertight compartments and their multiplicity of coal bunkers, the latter having the great total capacity of about 3,000 tons, which insures a large steaming radius. The bunkering capacity of the Columbia is 1,670 tons. The protective deck of the latter is 4 inches thick on the slopes, and 2½ on the flat, and that of the Terrible is put at 4 inches for most of its length, diminishing a little at its extremities. The Terrible is driven with twin screws instead of with triple screws, such as our vessels have. Her hull will be sheathed with wood and coppered, so that she may be kept longer at sea without the need of docking.

No doubt the Powerful and the Terrible are fine pair of cruisers, whose existence at this time may perhaps be ascribed in part to the fact that our Columbia and Minneapolis had made such long strides in the development of this type.

Uncle Sam Seen by Friendly Eyes.

In the current number of the North American Review Mr. MICHAEL G. MULHALL, F. S. S., makes a study of those elements of power and wealth in the United States which, as he expresses it, have "enabled a community of wood cutters and farmers to become, in less than 100 years, the greatest nation in the world."

Mr. MULHALL, a native of Ireland, educated at the Irish College of Rome, has been of high repute for many years as a statistician. His experience in the study of the strength and resources of nations gives value to his present array of facts and figures, and to his emphatic declaration that "If we take a survey of mankind in ancient or modern times, as regards the physical, mechanical, and intellectual force of nations, we find nothing to compare with the United States in this present year of 1895."

The units of power which he employs in his calculations are themselves interesting. The working power of an able-bodied male adult, he tells us, is 300 foot-pounds daily, that of a horse, 3,000, while the standard of steam horse power is 40,000. The foot-ton is that amount of power which, if concentrated and applied, could raise a ton the height of a foot. Taking this basis, Mr. MULHALL finds the working power of the United States to be approximately as follows at various dates:

Years	Head.	Horse.	Steam.	Total.	Foot-ton.
1840	4,000	5,200	67,700	186,000	1,040
1845	4,400	6,100	80,600	214,000	1,140
1850	4,800	12,900	104,000	248,000	1,240
1860	4,800	22,900	140,000	360,000	1,340
1870	4,400	36,000	183,000	531,000	1,440
1880	4,400	55,200	177,000	700,000	1,540
1890	4,400	66,000	192,000	792,000	1,640

The literal fulfillment of the above prophecy appeared in THE SUN of yesterday, and we regret to say that the worst fears entertained by DAMSEN's reform well-wishers have been realized.

The facts of the case are these: Four prisoners were taken before United States Commissioner SHAW, in the Federal building, on Friday afternoon, by secret service men. They were accused of robbing Post Offices, particularly the Hoboken office in December of \$6,000 in money and stamps. The robbery was a daring one, and the postmaster, a patent supplier, is not to be underrated. The mail was sheared off from the Columbia and Raabe's boat.

In this reckoning the working power per inhabitant is seen almost to have doubled since 1840, while the entire effective force of the American people is more than three times what it was in 1860. The most rapid growth, of course, is in steam power. The horse power of steam is nearly twice as great this year as it was fifteen years ago, taking together locomotives, steam engines, steam boats, and the fixed power of mines and factories, and nearly five times as great as that of 1860. To illustrate the energy of the United States he compares it with that of other nations:

Years	Head.	Horse.	Steam.	Total.	Foot-ton.
U.S.	4,000	5,200	67,700	186,000	1,040
U.S.	4,400	6,100	80,600	214,000	1,140
Germany	4,800	12,900	104,000	248,000	1,240
France	4,800	22,900	140,000	360,000	1,340
Austria	4,400	36,000	183,000	531,000	1,440
Italy	4,270	4,000	4,000	51,000	1,340
Spain	4,000	3,600	10,000	49,600	960

Here we see that the United States is clearly the most powerful nation in the world, and that the rates failing to each American is more than what two Frenchmen or Germans have at their disposal. Moreover, the military arms which keep in force nearly 4,000,000 men in Europe are happily known in the United States, it is true, the power of the United States is far greater than that of any other nation. The labor and exertions of 4,000,000 men in prime of life, they have also to set about 1,000,000 workers of the agricultural and industrial classes to feed and clothe the standing armies and the force of artillery. This is the average of productive energy in France, Germany, England, and Australia appears in the above statement."

Again, in the labor-saving appliances of the United States we see the perfecting of machinery, the reaping machine, for example, commonly used in the Western States, "will cut and bind grain at the rate of forty-five minutes per acre." An ordinary farm hand in the United States says Mr. MULHALL thanks to these mechanical appliances, raises as much grain as three hands do in England, four in France, five in Germany, and six in Austria. Reducing man products to a grain standard by supposing ten pounds of meat or two gallons of wine to be equal to a bushel, he finds the number of bushels of grain per hand raised in the United States to be 475; in the United Kingdom, 298; in France, 188; in Germany, 118; in Italy, 115; in Austria, 97. Yet again, he quotes Mr. ATKINSON as showing that in America the labor of one man in six days in the year is equivalent to the production of 4,000 bushels of wheat, while that of three men represents the cutting, threshing, milling, and transporting to market. Thus four men carry to the baker's four for a thousand persons, at twelve ounces of bread daily, for a year. "In other words, one man can feed 250, where in Europe one man feeds only thirty persons," and little improvement in Europe can be expected, since the British racers are nearly double ours. The Columbia's maximum draught at the lowest point of the keel, with full blankets, is about 26 feet 7 inches. When the Columbia was designed she was, according to Secretary THOMAS, the longest man-of-war in the world, but these new British racers are far longer.

The engines of the Terrible are to develop 50,000 horse power, with an extreme speed originally described as 34 knots.

The maximum indicated horse power of

the Columbia is put in the tables of the Bureau of Construction at 18,500, and that of the Minneapolis at 20,400. But although unequalled in any other war vessel, the horse power of the Powerful and Terrible is not so extraordinary, compared with that of our Columbia and Minneapolis, in proportion to the respective displacements of these two sets of vessels. Indeed, the trial speed of the Columbia was 22½ knots, and that of the Minneapolis 23 ½, and some authorities doubt whether more than 23 knots will be achieved by the Terrible, while the dispatches have now put it at only 22, although possibly meaning with natural draught.

The growth of wealth in this country seems to Mr. MULHALL still more marvelous than the growth of physical power. He finds the wealth of 1890 to be \$1,960,000,000, that of 1892 to be \$1,910,000,000, and that of 1890 to be \$615,000,000. And this last computation omits public lands. The number of dollars per inhabitant carried yearly, according to the Post Office returns, are 110 for the United States, 74 for Switzerland, 60 for Great Britain, 49 for Germany, 49 for Belgium, 40 for Holland, 39 for France, 24 for Austria, and 16 for Italy.

The growth of wealth in this country seems to Mr. MULHALL still more marvelous than the growth of physical power. He finds the wealth of 1890 to be \$1,960,000,000, that of 1892 to be \$1,910,000,000, and that of 1890 to be \$615,000,000. And this last computation omits public lands. The number of dollars per inhabitant carried yearly, according to the Post Office returns, are 110 for the United States, 74 for Switzerland, 60 for Great Britain, 49 for Germany, 49 for Belgium, 40 for Holland, 39 for France, 24 for Austria, and 16 for Italy.

The growth of wealth in this country seems to Mr. MULHALL still more marvelous than the growth of physical power. He finds the wealth of 1890 to be \$1,960,000,000, that of 1892 to be \$1,910,000,000, and that of 1890 to be \$615,000,000. And this last computation omits public lands. The number of dollars per inhabitant carried yearly, according to the Post Office returns, are 110 for the United States, 74 for Switzerland, 60 for Great Britain, 49 for Germany, 49 for Belgium, 40 for Holland, 39 for France, 24 for Austria, and 16 for Italy.

The growth of wealth in this country seems to Mr. MULHALL still more marvelous than the growth of physical power. He finds the wealth of 1890 to be \$1,960,000,000, that of 1892 to be \$1,910,000,000, and that of 1890 to be \$615,000,000. And this last computation omits public lands. The number of dollars per inhabitant carried yearly, according to the Post Office returns, are 110 for the United States, 74 for Switzerland, 60 for Great Britain, 49 for Germany, 49 for Belgium, 40 for Holland, 39 for France, 24 for Austria, and 16 for Italy.

The growth of wealth in this country seems to Mr. MULHALL still more marvelous than the growth of physical power. He finds the wealth of 1890 to be \$1,960,000,000, that of 1892 to be \$1,910,000,000, and that of 1890 to be \$615,000,000. And this last computation omits public lands. The number of dollars per inhabitant carried yearly, according to the Post Office returns, are 110 for the United States, 74 for Switzerland, 60 for Great Britain, 49 for Germany, 49 for Belgium, 40 for Holland, 39 for France, 24 for Austria, and 16 for Italy.

The growth of wealth in this country seems to Mr. MULHALL still more marvelous than the growth of physical power. He finds the wealth of 1890 to be \$1,960,000,000, that of 1892 to be \$1,910,000,000, and that of 1890 to be \$615,000,000. And this last computation omits public lands. The number of dollars per inhabitant carried yearly, according to the Post Office returns, are 110 for the United States, 74 for Switzerland, 60 for Great Britain, 49 for Germany, 49 for Belgium, 40 for Holland, 39 for France, 24 for Austria, and 16 for Italy.

The growth of wealth in this country seems to Mr. MULHALL still more marvelous than the growth of physical power. He finds the wealth of 1890 to be \$1,960,000,000, that of 1892 to be \$1,910,000,000, and that of 1890 to be \$615,000,000. And this last computation omits public lands. The number of dollars per inhabitant carried yearly, according to the Post Office returns, are 110 for the United States, 74 for Switzerland, 60 for Great Britain, 49 for Germany, 49 for Belgium, 40 for Holland, 39 for France, 24 for Austria, and 16 for Italy.

The growth of wealth in this country seems to Mr. MULHALL still more marvelous than the growth of physical power. He finds the wealth of 1890 to be \$1,960,000,000, that of 1892 to be \$1,910,000,000, and that of 1890 to be \$615,000,000. And this last computation omits public lands. The number of dollars per inhabitant carried yearly, according to the Post Office returns, are 110 for the United States, 74 for Switzerland, 60 for Great Britain, 49 for Germany, 49 for Belgium, 40 for Holland, 39 for France, 24 for Austria, and 16 for Italy.

The growth of wealth in this country seems to Mr. MULHALL still more marvelous than the growth of physical power. He finds the wealth of 1890 to be \$1,960,000,000, that of 1892 to be \$1,910,000,000, and that of 18